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*Publication date:*  
2019

*Document Version*  
Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

*Citation (APA):*  
Casanova, F., Mohammadifar, M. A., Kobbelgaard, S., Jakobsen, G., & Jessen, F. (2019). *Foam based on fish skin collagen by-product: a colloidal approach*. Poster session presented at Seminar on ingredients from new biomasses, Kgs. Lyngby, Denmark.

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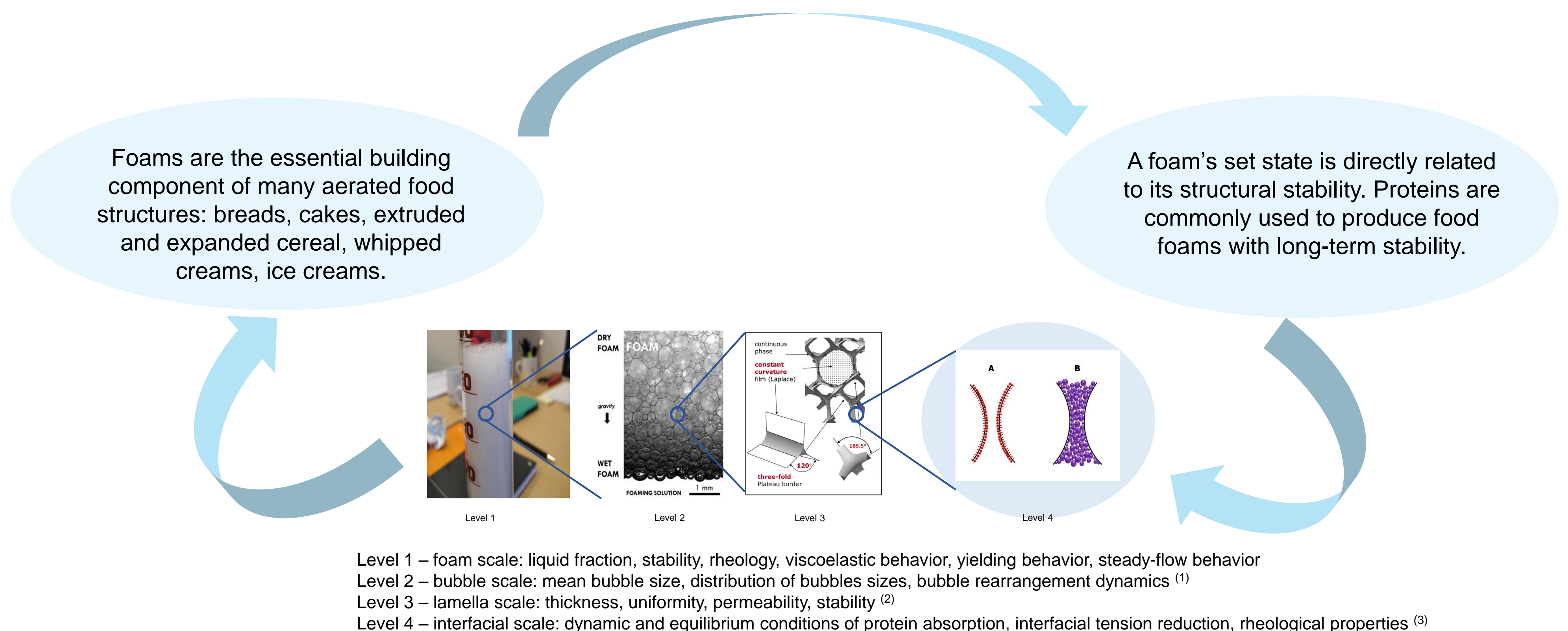
# Foam based on fish skin collagen by-product: a colloidal approach

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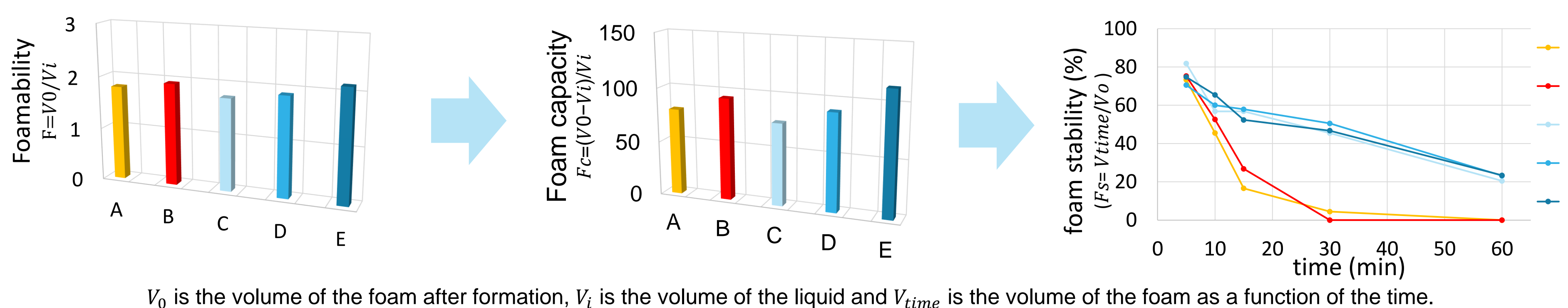
<sup>c</sup> Danish Fish Protein, Adelvej 11, Højmark, DK-6940 Lem St.



Recent changing in consumption trends, due to ecological problems, animal welfare, allergies, sanitary and religious restrictions, have led to making a concerted effort to find alternative protein sources that can provide similar functionalities in food systems. The large quantities of by-products generated by the fish-processing industry are a potential source for the production of gelatin.

**Research question : Can gelatin by-products be employed as alternative sources of protein ?**

We compared the *Foamability* ( $F$ ), the *Foam capacity* ( $F_c$ ) and the *Foam stability* ( $F_s$ ) of 2 commercial fish collagen samples (A and B) and 3 fish skin by-products collagen (C, D and E).



**Partial conclusions:** No significant difference was observed in terms of  $F$  between the samples. Better  $F_c$  (+ 25 %) was observed for the sample E. Fish skin by-products collagen present greater  $F_s$  compared to commercial sample: sample C, D and E present  $48 \pm 2$  % of  $F_s$  after 30 min whereas A and B present only 4.4 % and 0 %.

**Future directions:** In order to deeper investigate and better understand these differences, other analytical approaches are planned: dynamic interfacial tension, ellipsometry, film pressure balance as well as small angle X-ray scattering (SAXS).

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<sup>(3)</sup> Fameau, A. L., Salonen A. (2014). Effect of particles and aggregated structures on the foam stability and aging. Comptes Rendus Physique, 15, 748–760.